

6. ~~A method as claimed in claim 3, wherein a first information processing structure carries out the step of generating the instruction data, and a second information processing structure carries out the steps of generating the resource information and annotating the instruction data with the resource information.~~

7. A method as claimed in claim 6, wherein said second information structure is located in an information path for instruction data from the first information processing structure to the printer.

8. A method as claimed in claim 7, wherein said second information structure is a print spooler.

9. A method as claimed in claim 7, wherein said second information structure is a discrete structure receiving the instruction data as input and providing instruction data annotated with the resource information as output.

10. A method as claimed in any of claims 3 to 9, wherein the annotation is provided in the form of comments in the page description language and/or job control language, and wherein the method comprises between the steps of sending the instruction data and the resource information from the computer to the printer and scheduling printer processor resources a further step of filtering the comments in the page description language and/or job control language to extract the resource information.

11. ~~A method as claimed in claim 10, wherein the resource information is provided as comments in page headers of the page description language.~~

12. A method as claimed in claim 11, wherein the resource information is provided as comments in the page header to the first page of the document.

13. A method as claimed in claim 11, wherein the resource information is provided incrementally in a plurality of page headers.

14. A method as claimed in claim 13, wherein page headers contain resource information for the page to which they relate or to later pages in the document if such resource information has not already been provided in previous page headers.

5

SUB 27

15. A method as claimed in claim 11, 13 or 14, where no resource information is provided as a comment to the page header of the first page.

10

16. A method as claimed in claim 15, wherein the step of generating resource information does not include generation of resource information for the first page of the document.

15

17. A printer adapted to print a document from instruction data and resource information, the printer having a printer processor, such that the printer processor is adapted to schedule its resources for the different stages of printing the document from the instruction data in accordance with the resource information, and to print the document from the instruction data with the printer processor resources as scheduled.

20

18. A printer as claimed in claim 17, wherein the instruction data is provided as page description language and/or job control language.

25

19. A printer as claimed in claim 18, wherein the resource information is provided as annotation to the page description language and/or job control language.

30

20. A printer as claimed in claim 19, wherein the annotation is provided in the form of comments in the page description language and/or job control language, and wherein the printer processor is adapted to filter the comments in the page description language and/or job control language to extract the resource information.

21. A computer programmed to provide a document for printing by a printer, the programmed computer having:

~~a first information processing structure to generate instruction data to enable a printer to print the document;~~

a second information processing structure resource to generate resource information indicative of printer processor resources required by the printer at different stages of printing the document; and

an information path such that the instruction data and the resource information can be sent from the computer to a printer.

22. A computer as claimed in claim 21, wherein the first information processing structure generates instruction data as page description language and/or job control language.

23. A computer as claimed in claim 22, wherein the second information processing structure generates resource information as annotation to the page description language and/or job control language, and is adapted to annotate the instruction data with the resource information.

24. A computer as claimed in claim 23, wherein the first information processing structure and the second information processing structure are combined in a common information processing structure.

25. A computer as claimed in claim 24, wherein the common information processing structure is a printer driver.

26. A computer as claimed in claim 23, wherein said second information structure is located in the information path between the first information processing structure and a printer.

27. A computer as claimed in claim 26, wherein said second information structure is a print spooler.

8/31/21
28. ~~A computer as claimed in claim 26, wherein said second information structure is a discrete structure receiving the instruction data as input and providing instruction data annotated with the resource information as output.~~

Sub a3 75
29. A computer as claimed in any of claims 23 to 28, wherein the second information structure is adapted such that the annotation is provided in the form of comments in the page description language and/or job control language.

10 30. ~~A computer as claimed in claim 29, wherein the second information structure is adapted such that the resource information is provided as comments in page headers of the page description language.~~

12 31. A computer as claimed in claim 30, wherein the second information structure is adapted such that the resource information is provided as comments in the page header to the first page of the document.

20 32. A computer as claimed in claim 30, wherein the second information structure is adapted such that the resource information is provided incrementally in a plurality of page headers.

Sub a4 33. A computer as claimed in claim 30 or claim 32, where the second information structure is adapted such that no resource information is provided as a comment to the page header of the first page.

25 34. ~~A computer as claimed in claim 33, wherein the second information structure is adapted so as not to generate resource information for the first page of the document.~~

Sub a5 35. A computer system comprising a printer as claimed in any of claims 17 to 20, a computer as claimed in any of claims 21 to 34, and a communication path adapted to carry information from the computer to the printer.

Sub 57 36.

An article of manufacture comprising a program storage medium having computer readable program code means embodied therein for causing a document to be provided in an enhanced form for printing by a printer, the computer readable program code means in said article of manufacture including:

computer readable program code means for causing a computer to generate instruction data to enable a printer to print the document, wherein the instruction data is provided as page description language and/or job control language; and

computer readable program code means for causing the computer to generate resource information indicative of printer processor resources required by the printer at different stages of printing the document, and to annotate the instruction data with the resource information, thereby providing the annotated instruction data for printing by the printer.

Sub 57 37.

An article of manufacture comprising a program storage medium having computer readable program code means embodied therein for enhancing information enabling a document to be provided for printing by a printer to improve printer performance, said information being provided as instruction data in the form of page description language and/or job control language, the computer readable program code means in said article of manufacture comprising computer readable program code means for causing the computer to generate resource information indicative of printer processor resources required by the printer at different stages of printing the document, and to annotate the instruction data with the resource information, thereby providing the annotated instruction data for printing by the printer.

all 17